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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,878	08/22/2005	Sotiris Koussios	Tech-21/RCE(P61151US00)	4430
7265                      7590                      11/23/2009 MICHAELSON & ASSOCIATES P.O. BOX 8489 RED BANK, NJ 07701-8489				
EXAMINER				
BRADEN, SHAWN M				
ART UNIT		PAPER NUMBER		
3781				
MAIL DATE		DELIVERY MODE		
11/23/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/523,878

**Applicant(s)**

KOUSIOS ET AL.

**Examiner**

SHAWN M. BRADEN

**Art Unit**

3781

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 23-28 and 39-44 is/are pending in the application.
- 4a) Of the above claim(s) 45-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-28, 39-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/31/2009 has been entered.

### ***Election/Restrictions***

2. Newly submitted claims 45-49 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the newly submitted claims are drawn to newly claimed species that were not required in the original claims, the shift of the current application to include new structure and limitations that are considered independent and distinct, would require separate searches that would put a burden upon the examiner.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 45-49 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not understood why or how the filament would have torsion with respect to the center liner of the pressurizable structure. The torsion of the filament would change as the angle of the filament changed, The examiner is not clear on how the center line relates to the filament torsion.

5. Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim language reads as if the filament actually rolls when the pressurizable structure is pressurized, inferring movement of the filament when changing from a pressurized state to a non-pressurized state. From reading the specification, it is the examiner's understanding, that the filament is actually applied with one side down and then a reversal done by twisting the filament and laying the reverse side down. The reversal being independent from the state of pressure.

Clarification will be required.

6. Claim 44 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not understood how a user can have a one or two dimensional tank?

7. Claim 39 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. The "matrix" it is unclear which matrix is being claimed. The spec refers to the base structure as being a "Matrix" and also refers to an overspray matrix being applied over the base and filament. For examining purposes it will be assumed that applicant is attempting to claim the over coating which is applied over the base and filament layers.

8. Claim 23 recites the limitation "the radius and the axial ends" in lines 5 and 12 respectively. There is insufficient antecedent basis for this limitation in the claim.

9.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 23-28,39-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Beukers (European Patent 0 626 338 A1).

12. Beukers shows claim 23, a gas or fluid-tight body (fig. 10) overwound as an isotensoide (page 2 line 58) with a number of one or more fiber filaments, the fiber filaments having a longitudinal axis defined along their length, whereby wherein the radius of the body varies with respect to a rotation-symmetrical axis of the pressurizable structure (varying radius shown well in fig. 10), such that said body comprises a number of at least one concave surface section (the valleys shown in fig. 10) spaced apart from the axial ends, each having wherein each concave surface section has a local minimum

radius, and a number of and further comprising at least one convex surface (the peaks shown well in fig. 10) section spaced apart from the axial ends, each having wherein each convex surface section has a local maximum radius, characterized in that wherein at least one concave surface section is continuously overwound with a fiber filament as an isotensoide (page 2 line 58).

13. Beukers shows claim 24, characterized in that wherein the fiber windings in filaments overwinding the at least one concave surface section comprise a plurality of substantially straight fiber filaments forming a hyperboloid when the at least one concave surface section is non pressurized (fig. 10 shows the hyperboloid between the bellows, the filaments is shown being applied in fig. 8, during the isotesoide process the filaments are inherently substantially strait since they are under tension, thus not allowing them to be curved).

14. Beukers shows claim 25, wherein the pressurizable structure is quasi-geodesically overwound in a continuous fashion (page 2 line 53).

15. Beukers shows claim 26, wherein the longitudinal orientation of the fiber filament along a finite length thereof is oriented substantially perpendicular with respect to the rotation-symmetrical axis of the structure (shown well in fig. 8 ).

16. Beukers shows claim 27, wherein the fiber filaments undergo torsion with respect to the longitudinal center-line of the pressurizable structure when the pressurizable structure is in a pressurized state, whereby substantially one side of the curved fiber remains in contact with the body in the at least one concave surface section (fig. 8 shows a twist in the filament meeting the claim as it is understood).

17. Beukers shows claim 28, in that in a pressurized state there is reversal of the side of the fiber filaments in contact with the at least one concave surface section relative to the side of the fiber filaments in contact with the at least one convex surface section (fig. 8 shows a filament with a single twist reversing the side of contact of the filament).

Claims 29-38 (canceled).

18. Beukers shows claim 39, wherein the body is flexible, i.e., non-rigid, and the fiber filaments are supported by a matrix material (page 4 line 14).

19. Beukers shows claim 40, whereby the axial length of at least one axial section of the pressurizable structure is variable with respect to the longitudinal axis of the pressurizable structure (fig. 10 shows varying lengths).

20. Beukers shows claim 41, wherein at least one axial section of the pressurizable structure is pivotable (these flexible bags are able to flex in all direction thus meeting the structure and recitation of pivot) with respect to the longitudinal axis of the pressurizable structure.

21. Beukers shows claim 42, wherein at least one axial section of the structure is pivotable with respect to an axis, wherein the axis is orthogonal to the longitudinal axis of the pressurizable structure (again the flexibility of the structure shown in fig.10 with the bellows will meet this recitation).

22. Beukers shows claim 43, wherein at least one axial section of the pressurizable structure comprises a combination of at least two of the following technical elements; (i) at least one axial section of the pressurizable structure is pivotable (flexing) with respect

to the longitudinal axis of the pressurizable structure; (ii) the axial length of the at least one axial section of the structure is variable (fig. 10 show varying lengths) with respect to the longitudinal axis of the pressurizable structure; (iii) the axial section of the structure is pivotal (flexing) with respect to an axis, wherein the axis is orthogonal to the longitudinal axis of the pressurized structure.

23. Beukers shows claim 44, a three dimensional arrangement tanks capable of holding fuel (fig. 4)

### ***Response to Arguments***

24. Applicant's arguments with respect to claims 23-28 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHAWN M. BRADEN whose telephone number is (571)272-8026. The examiner can normally be reached on Mon-Friday 9-6:30 est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on (571)272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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